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**REMARKS**

The Office Action dated April 3, 2007 has been reviewed. Reconsideration of the grounds of rejection of claims 67-70 is respectfully requested in view of the remarks herein. Applicant respectfully submits that pending claims 67-74 are allowable over the prior art.

**SUMMARY OF THE OFFICE ACTION**

Claims 67 and 70 stand rejected under 35 U.S.C. § 103(a) over Tomioka et al (US 5,510,109) in view of Yahya et al (US 5,217,626) and further in view of Choi (Bulletin of the Korean Fisheries Society) and Kobayashi et al (US 4,909,986). Claim 68 stands rejected under 35 U.S.C. § 103(a) over Tomioka et al (US 5,510,109) in view of Yahya et al (US 5,217,626) and further in view of Choi (Bulletin of the Korean Fisheries Society). Claim 69 stands rejected under 35 U.S.C. § 103(a) over Tomioka et al (US 5,510,109) in view of Yahya et al (US 5,217,626) and further in view of Kobayashi et al (US 4,909,986).

Applicant notes with appreciation the Examiner Interview held on June 26, 2007. During the Interview, several arguments for the patentability of the pending claims were discussed. The Examiner noted that the arguments included below support the filing of the accompanying Request for Continued Examination.

**RESPONSE**

Applicant asserts that one of ordinary skill in the art would not be motivated to combine the cited elements of each reference. Claims 67-70 of the present application claim copper and silver concentrations of no more than 0.75 milligrams of copper and 0.0375 milligrams of silver per liter of fluid. In the rejections, the Office states that Tomioka teaches combining copper and silver ions in an aqueous solution without specifically showing concentration ranges. Yahya is combined to show that copper and silver ions at concentration ranges cited by the instant claims falls within his teachings and thus allegedly renders the claimed invention obvious when combined with one or more of Tomioka and/or Choi and/or Kobayashi. However, Yahya provides no suggestion, teaching or motivation that

would lead a person of ordinary skill in the art to combine the relevant art teachings in the manner claimed for at least the reasons detailed below.

In Yahya, Figure 1 clearly demonstrates that the combination of silver and copper at the claimed concentrations is ineffective by itself as a disinfectant. The desired antibacterial and antifungal properties only result when the silver and copper are combined with potassium permanganate. Yahya describes this result as synergistic, and thus one of skill in the art understands that the only real value is in the combination of these three components. See col. 3 lines 44-51. Since the combination of silver and copper only display disinfectant properties when combined with potassium permanganate, it is clear that potassium permanganate alters the material qualities of the combination of silver and copper, i.e., the composition's disinfectant qualities. Therefore, because the use of the transitional phrase "consisting essentially of" excludes the presence of other components which alter the basic and novel material qualities of the subject matter, the use the transitional phrase in the pending claims excludes the presence of potassium permanganate. To use the combination of silver and copper alone as a disinfectant would destroy the intent of the composition of Yahya, which focuses on the synergistic effect of combining the silver and copper with the potassium permanganate. Thus, Yahya provides no suggestions, teaching or motivation to use any concentrations of silver and copper in combination with any other constituent in a disinfectant solution in the absence of potassium permanganate.

Moreover, Choi relates to a bacterial inhibitor and not a biocide. One of skill in the art would not have been motivated to combine the grapefruit seed extract concentrations of Choi with Tomioka because the composition in Choi performs a different function than the composition of Tomioka and, more importantly, the claimed composition. Choi provides no teaching or suggestion that the disclosed grapefruit seed extract concentrations would function as a biocide, and therefore one skilled in the art would have no reasonable expectation of success.

Accordingly, applicant requests withdrawal of the rejections of claims 67-70.

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CONCLUSION

Applicant respectfully submits that the rejections of the claims under 35 U.S.C. § 103(a) have been addressed. Reconsideration and allowance of the pending claims is respectfully requested at the earliest possible date.

Respectfully submitted,

Date

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